The ACCC Merger Guidelines: A reader’s manual

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The Merger Guidelines released in March 2008 by the ACCC provide a guide to the analytical approach the ACCC intends to adopt to assessing mergers for the purposes of s 50 of the Trade Practices Act. The new guidelines do a relatively good job in listing the factors that the contemporary economic literature identifies as potentially characterising mergers that reduce competition and harm consumer welfare. However, unlike the earlier guidelines, they rarely explain the mechanism connecting the factors to the harm, and the conditions that need to be met for that harm to occur. This article provides a ‘user’s guide’ to the guidelines that explains the reasoning that underpins the guidelines’ assertions, and draws attention to the assumptions on which those assertions rest. We also provide an economic assessment of the guidelines and recommend a simpler criterion by which the ACCC should judge mergers.

Introduction

The Merger Guidelines recently released (March 2008) by the Australian Competition and Consumer Commission (ACCC) provide a guide to the analytical approach the ACCC intends to adopt to assessing mergers for the purposes of s 50 of the Trade Practices Act 1974 (Cth) (TPA). In essence, that section prohibits mergers that would have the effect, or be likely to have the effect, of substantially lessening competition. The TPA also specifies a number of factors the ACCC must take into account in considering whether a merger would have that effect. That list, which does not prevent consideration of other factors, includes matters such as the threat of import competition, the height of entry barriers and the level of market concentration. The objective of the new Merger Guidelines is to explain the role the specified factors and others will play in the ACCC’s merger assessment.

The guidelines replace previous guidelines issued in 1999 (but which were drafted substantially before that date). In analytical terms, the main difference between these guidelines and their predecessor lies in the greater weight placed on unilateral effects and on vertical and conglomerate (relative to horizontal) mergers and on elaborating specific methodologies for dealing...
with each of those. This largely reflects the evolution of the economic literature on mergers since the time when those earlier guidelines were developed. A first purpose of this article, therefore, is to summarise the key elements of that evolution, as a background that can assist users of the new guidelines. The key elements of the analysis of horizontal mergers are discussed first, before turning to vertical and conglomerate mergers. That done, the article then raises some issues with respect to the guidelines, in particular their failure to articulate a well-defined criterion in terms of which mergers will be assessed. A final section draws some conclusions.

Overall, it is our view that the new guidelines do a relatively good job in listing the factors that the contemporary economic literature identifies as potentially characterising mergers that reduce competition and harm consumer welfare. However, unlike the earlier guidelines (which were more discursive in style), they rarely explain the mechanism connecting the factors to the harm, and the conditions that need to be met for that harm to occur. A second purpose of this article is therefore to provide a ‘user’s guide’ that can explain to those who may be affected by the guidelines the reasoning that underpins the guidelines’ assertions, and draw attention to the assumptions on which those assertions rest.

A third purpose is to express and explain some concerns about the new guidelines. In particular, the guidelines often take what are mere possibilities, identified in the theoretical literature, and suggest they are significant. This in turn suggests a predisposition, most manifest in respect of vertical and conglomerate mergers, to too readily assume that a merger could be harmful, even when the assumptions required for it to be so are very stringent indeed. At the same time, the guidelines do not do a good job of explaining the criterion in terms of which mergers will be assessed. Specifically, they suggest that some efficiencies that the merger may yield are relevant, but others are not, without clearly explaining how this distinction is to be drawn either in theory or in practice.

Combined, a predisposition to view mergers as potentially harmful, and a poorly-articulated criterion for assessing which mergers are likely to be harmful and which are not, creates a risk of a merger review process that is both excessively discretionary (which may deter some welfare-increasing mergers, and is in any case highly undesirable from the standpoint of limiting undue administrative power) and too often finds mergers to be harmful (forcing society to forego the benefits those mergers would bring). Given that risk, we recommend using a simple consumer welfare criterion (that only mergers that are likely to reduce consumer welfare should be of concern to the ACCC and hence require authorisation) and being somewhat bolder than the guidelines in providing ‘safe harbours’ for mergers that involve firms with small market shares or where the merger is conglomerate or vertical in character.

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2 A conglomerate merger would only be assessed for its impact on competition if it involved either weak substitutes or complements.
Horizontal mergers and market aggregation

The immediate effect of mergers between suppliers of substitutes is to increase the extent of market concentration. One of the significant changes in the current set of guidelines compared to the previous guidelines is the shift from the four firm concentration ratio as a merger screening mechanism to the use of the Herfindahl-Hirschman Index (HHI), which is calculated by summing the squares of the market shares (in percentage terms) of all the market participants.\(^3\)

While there are some advantages to using concentration indices in general and to using this approach in particular, it is also important not to place too much weight on these market concentration measures as they can often be misleading.

To see what can ‘go wrong’ when these indices are used for policy analysis, note that a higher HHI is neither a necessary nor sufficient condition for producing a fall in welfare. Suppose, for example, there is a market for a homogenous product with a linear demand curve, with two firms choosing quantities in the usual Cournot fashion. Suppose that the firms’ marginal costs are \(c_1 = 1\) and \(c_2 = 1\). Suppose further that the inverse demand curve is:

\[
P = 2 - Q
\]

where \(P\) is the market price and \(Q\) is the aggregate quantity. Under the assumption of Nash-Cournot behaviour, both firms produce the same quantity of \(q = 1/3\), and the HHI is \(1/2\). The market price is 1 1/3, both the consumer surplus and producer profits are 2/9, and so aggregate welfare is 4/9.

But now suppose that firm 1 gains access to a new cost-reducing technology and that its marginal costs fall to 0.5. Then in the new Cournot equilibrium, price falls to 1 1/6 and market quantity rises to 5/6 with firm 1 producing 2/3 and firm 2 producing 1/6. Since consumers are consuming more at a lower price, they must be better off; indeed, consumer surplus rises to 0.347. But aggregate profits also rise — firm 1’s profits rise more than 2’s profits fall. Finally, the HHI index rises because firm 1 gains market share at the expense of firm 2. These numbers are summarised in Table 1 below.

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\(^3\) A property of this index is that it will tend to 0 as the number of equally sized participants rises and to 1 as the market approaches pure monopoly.
Table 1: Data for HHI Example

<table>
<thead>
<tr>
<th></th>
<th>Initial Situation</th>
<th>Final Situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$c_1$</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>$c_2$</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>$q_1$</td>
<td>1/3</td>
<td>2/3</td>
</tr>
<tr>
<td>$q_2$</td>
<td>1/3</td>
<td>1/6</td>
</tr>
<tr>
<td>Total quantity</td>
<td>2/3</td>
<td>5/6</td>
</tr>
<tr>
<td>Price</td>
<td>1 1/3</td>
<td>1 1/6</td>
</tr>
<tr>
<td>Consumer Surplus</td>
<td>2/9</td>
<td>0.3472</td>
</tr>
<tr>
<td>Profit of firm 1</td>
<td>1/9</td>
<td>4/9</td>
</tr>
<tr>
<td>Profit of firm 1</td>
<td>1/9</td>
<td>0.0277</td>
</tr>
<tr>
<td>Total Welfare</td>
<td>4/9</td>
<td>0.81944</td>
</tr>
<tr>
<td>HHI</td>
<td>0.5</td>
<td>0.68</td>
</tr>
</tbody>
</table>

This example illustrates the important point that a higher HHI need not always reduce consumer welfare or total surplus, as the outcome of the increase depends both on costs (which points to a consideration of any efficiencies associated with a merger — a factor discussed below) and on the nature of the competitive interaction between firms. A firm that possesses a high market share may simply have lower costs than its rivals, and may therefore be more willing (and able) to profitably sell a greater quantity than its rivals at the same market price. In such a situation the HHI might be quite high, but total surplus would be lower in the alternative situation in which firms had equal market share because they had access to the same (inferior) technology.

Similarly, the introduction of a new but common cost reducing technology by all firms in an industry may increase total quantity and lower the market price, but may not change the pattern of individual market shares across the industry. Thus, the HHI could remain the same and welfare could rise.

Alternatively, an adverse but common cost increase may reduce total quantity and increase the market price, but may not change the pattern of individual market shares across the industry. Thus, the HHI could easily remain the same after such a shock, even though welfare would fall. The result is:

Concentration indices are useful in that they give an easily computable and interpretable indication of how competitive the industry is. However, they have no systematic relationship with economic variables of interest for assessing changes in cost, demand or policy. Furthermore, they are endogenous, so they do not allow simple observations of correlation to be interpreted in a causal way.4

That noted, economists were traditionally concerned about high levels of concentration because these were thought likely to facilitate collusion. The ‘market concentration doctrine’ held that market power could be measured by the degree to which the output of an industry was produced by a few firms.5 Holding everything else constant, there are some grounds for believing that the smaller the number of firms in a market, the more readily they can

coordinate their pricing behaviour — not only because they will encounter fewer difficulties in determining the collusive profit-maximising price but also because they can more easily detect and punish cheating. As a result, an increase in concentration was viewed as making it likely that firms would engage in cooperative behaviour, either through express cartels or through tacit pricing coordination. To that extent, concentration-increasing mergers could give rise to ‘concerted effects’, i.e., could move the relevant market closer to a collusive outcome.

At the same time, simple Cournot oligopoly models in which firms were assumed to have identical cost structures showed that even if firms did not explicitly cooperate, higher levels of concentration were likely to lead to higher price-cost margins. Thus, these models yield an equilibrium in which the Lerner index — the margin of price over cost — depends on the Herfindahl-Hirschman Index. If firms have identical marginal costs, this equilibrium can be characterised as:

\[
\frac{P - C}{P} = \left( \frac{H \times \text{Beta}}{e} \right)
\]

where \( P \) is price, \( C \) is marginal cost, \( H \) is the Herfindahl-Hirschman Index, \( e \) is the elasticity of demand for market output and \( \text{Beta} \) is a parameter which represents the manner in which firms in the market interact. While pure cartel behaviour corresponds to \( \text{Beta} = 1/H \), Cournot-Nash behaviour\(^7\) can be shown to correspond to \( \text{Beta} = 1 \). If oligopolies are taken to behave on Cournot-Nash terms, then the HHI can be interpreted as the ratio of the (likely) non-cooperative mark-up to the cooperative (collusive) mark-up. Each percentage increase in the HHI then translates into higher mark-ups.

This approach begs a host of theoretical and empirical questions, including why firms would hold the Cournot conjecture and no less importantly, why the resulting equilibrium is not vulnerable to competing entry (all the more so in formulations such as those used by Cournot himself, where there are no fixed costs and all firms (presumably including the smallest entrant) have the same marginal costs). Those questions notwithstanding, these simple models seemed to justify a focus on the extent of the concentration (i.e., the increase in market share) associated with a merger on two grounds: (1) because for a given pattern of interaction (the Beta coefficient above) higher concentration will yield higher margins of prices over costs; and (2) because as concentration rises, the pattern of interaction may change towards or to collusion.

In the late 1980s and 1990s, however, attention turned from these models to consideration of the scope which mergers may create for the merged entity

\[\text{6 The classic formulation is G Stigler, ‘The Theory of Oligopoly’ (1964) 72 Jnl of Political Economy 44. A number of formulations subsequent to Stigler’s paper are reviewed in A Jacquemin and M Slade, ‘Cartels, Collusions and Horizontal Merger’ in R Schmalensee and R Willig (Eds), Handbook of Industrial Organization, NorthHolland, Amsterdam and New York, 1989, p 415.}\n\[\text{7 In the Cournot-Nash oligopoly model, firms producing a homogenous product under the same cost conditions first must commit to their productive capacity, and the price becomes that which clears the market of this output. See, eg, C Shaprio, ‘Theories of Oligopoly Behaviour’ in Schmalensee and Willig, above n 6, p 329.}\]
to raise price unilaterally — that is, even assuming that the other firms in the market hold their own prices constant. These ‘unilateral effects’ models are relevant in contexts where firms are not homogenous — for example, because the products they sell are differentiated, their costs differ, or they have different production capacities. Once the analysis is placed in these circumstances, the conventional emphasis on market share loses much of its value.

Consider, for example, a market in which products are extensively differentiated. In such a market, mergers are not likely to materially facilitate coordinated price effects, if nothing else because the gains from coordinating a price increase between distant substitutes are probably low. However, if two firms supplying relatively close substitutes merge, then the merged entity will have incentives to increase its own price relative to the prices bordering it on the chain of substitution. The closer the two firms are to each other in the chain of substitution, and the further they are from other firms, the greater this effect will be. In other words, the extent of the post-merger price rise will depend on the pre-merger ratio, for each of the merging parties, of (1) the cross-price elasticity of demand between its product and that of the other merging party, to (2) its own-price elasticity of demand.

Market share plays no necessary role in this formulation. Rather, what counts is the ‘diversion ratio’: the share of their output which the firms, pre-merger, would have lost to each other had they attempted to increase price unilaterally. Although there are circumstances in which market shares may act as a proxy for this ratio, these circumstances cannot be assumed to hold with any generality. No less importantly, it is a result of these models that mergers between even relatively small producers can yield substantial increases in prices, if they are strategically located in the chain of substitution.

Although the formulations used differ slightly, similar mechanisms are important in the analysis of mergers when firms are differentiated in terms of costs. Consider, for example, electrical generators selling electricity into a wholesale pool, where those generators that are dispatched receive the market-clearing price for the quantity they supply. The competing generators can be viewed as lying on an upward-sloping supply curve, with the baseload generators at one end, and the high variable costs peak-load generators at the

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10 In essence, for market share to play this role, there must be a link between intensities of preferences and the pattern of market share. Rather special assumptions need to be made to generate such a link. See Willig, above n 8, at 301 and following.

other. If generators are either ‘in’ or ‘out’ of merit, and can bid so as to either be ‘in’ or ‘out’, even a merger between infra-marginal firms may increase price if the choice left to the market manager is to pay more to the merged firm or contract with (bring into merit) an even more expensive marginal supplier.\(^{12}\) Here too, the extent of the price rise does not vary in any simple way with market share or concentration; rather, it depends on the slope of the supply curve in the neighbourhood of the number of units the purchaser needs to obtain.

In short, the immediate extent of any unilateral effects mainly depends on the ‘distance’ separating the merging firms in terms of their supply and demand characteristics from rivals. However, the persistence of those effects will depend on the degree to which that ‘distance’ is likely to be eroded over time by the entry of new firms and by the re-positioning of existing firms. These, in turn, will depend on the costs (including risks) involved in the associated expansion of supply, which obviously depend both on the resources required for that expansion (and the extent to which those resources, once committed to that expansion, are sunk) and on the likely response to that expansion by the merged entity.

**Vertical and conglomerate mergers**

As well as explicitly considering unilateral effects, the new guidelines pay far more attention to vertical and conglomerate mergers than did the 1999 guidelines. Here the focus tends to be on ways in which these mergers may allow the merged entity to harm rivals so as to increase prices above the levels that would otherwise have prevailed.

**Vertical mergers**

The increased focus on vertical mergers reflects a large and still rapidly growing strand of economic literature that shows that vertical integration can in some cases confer on the merged entity the incentive and ability to exclude upstream or downstream rivals in a way that harms the competitive process. Such conduct could, for example, involve pricing decisions in relation to selling the input to rival downstream firms or purchasing decisions with regard to inputs from competing upstream firms. Conduct of this type is commonly referred to as ‘vertical foreclosure’.

Depending on the level where exclusion occurs, two forms of vertical foreclosure can be distinguished:\(^{13}\)

- **Input foreclosure** — also referred to as ‘Raising Rivals’ Costs’ (RRC): In this scenario, the upstream firm has market power and uses

\(^{12}\) See, for an early application of such a model, see ‘FTC Will Seek to Block Rite Aid/Revco Merger’, FTC News, Federal Trade Commission, April 1996.

\(^{13}\) The literature often distinguishes between ‘vertical’ and ‘horizontal’ foreclosure, where horizontal foreclosure is exclusionary conduct applying to a set of markets that are not vertically connected in the production of a single final good. See, eg, P Rey and J Tirole, ‘A Primer on Foreclosure’ in M Armstrong and R Porter (Eds), *Handbook of Industrial Organization*, Vol 3, NorthHolland, Amsterdam and New York, 2007, p 2145. However, both horizontal and vertical foreclosure are essentially manifestations of a similar phenomenon as in both cases market power is either extended into a related market or fully exploited with the help of control of a related market.
that market power to exclude downstream rivals by refusing to deal with downstream competitors, increasing the input price or deteriorating the quality of the input sold to competitors.

- **Customer foreclosure** — also referred to as ‘Reducing Rivals’ Revenues (RRR): In this scenario, it is the downstream firm that has market power and the concern is that it may use that power to exclude firms upstream, for example, by refusing to purchase inputs from alternative suppliers and solely purchasing from its newly acquired upstream arm.

In both cases of exclusion, competitors are likely to be harmed as, given the newly vertically integrated firm’s actions, they now either have higher input costs (or are completely excluded from access to inputs) or face obstacles to serving the downstream market.

The foreclosure resulting from such strategies may be total or partial. For example, with RRC, total foreclosure occurs if the integrated firm charges an input price which is so high that no downstream competitor would want to buy the input or if it deteriorates quality to a level where competitors refuse to buy the input (both of these strategies having the same result as an outright refusal to deal). In contrast, partial foreclosure involves an input price increase or quality deterioration that is more subtle, such that competitors continue to purchase some of the input from the integrated firm but do so on terms that reduce the extent of the competitive constraint they impose on the integrated entity.

Foreclosure is often seen as a strategy that ‘discriminates’ between the downstream affiliate and its competitors. However, distinguishing between discriminatory and efficient behaviour is difficult. In quite unrealistic cases, absent an anti-competitive purpose, a vertically integrated firm would supply and price sales to third parties identically to the way it supplied and implicitly priced itself. For example, this would be so if the firm faced identical costs in supplying itself or its rivals, and where all firms’ retail output is identical.

Such cases are, however, improbable, and in reality it is quite hard to identify whether differential treatment is discriminatory. For example, the vertically integrated firm is likely to use fewer resources in supplying itself as compared with supplying third parties (explaining why it is vertically integrated). As a consequence, a profit-maximising vertically integrated firm would operate as if it charged itself somewhat less than it charged third parties. Moreover, as the price difference would reflect the underlying cost difference, this would be both efficient and non-discriminatory. Vertical economies would in general also lead the vertically integrated firm to efficiently treat outside purchasers differently from supply to its own downstream arm. Indeed, this will be so whenever the firm, by being vertically integrated, gains vertical economies not available to third parties. Forceful identical treatment would amount to handicapping the vertically integrated firm, in effect discriminating against vertical integration (and thereby punishing consumers).

Identifying efficient, as distinct from discriminatory, behaviour is all the harder when firms differentiate their retail products. In that circumstance, if a wholesaling action by the vertically integrated firm causes the purchasing firm to lose a certain amount of retail custom, that custom is not automatically
transferred to another retailer, let alone the vertically integrated firm. In these cases, efficient wholesale prices and behaviour become complex.\textsuperscript{14} This makes it particularly difficult to distinguish whether the vertically integrated firm’s prices amount to anti-competitive foreclosure or merely are profit maximising (in the ordinary sense, that is, without any anti-competitive intent) and indeed efficient.

Foreclosure that involves the merged entity degrading rivals’ efficiency is more obviously likely to be anti-competitive and may also be more readily distinguished from pro-competitive behaviour (though one action still may be mistaken for another).\textsuperscript{15} The foreclosing firm, in other words, acts strategically to reduce the ability of rivals to constrain price rises or quality reductions to consumers.

The incentive to engage in this type of conduct arises from the fact that the merged entity, in its decision-making, takes account of profit opportunities at both vertical levels. In contrast, in the absence of contractual mechanisms which ensure otherwise, a vertically separated entity will benefit from profit increases that occur at its own functional level but will not fully internalise the profit consequences of its actions in the vertically-related market. As a result, strategic actions it could undertake which would increase profits in that market may not be profit-maximising for it, as the benefits of those actions, but not the costs, will flow to other firms. Once vertical levels are merged, however, the merged entity can capture (through the increased profits of its affiliate) some share of the profit increases that its conduct in one market causes in the other.

While this ‘internalisation’ of the vertical profits provides a possible anti-competitive rationale for foreclosure, it plainly does not imply that such a strategy would necessarily be profitable for the integrated firm. Rather, the economics literature suggests that the conditions under which foreclosure will emerge as an equilibrium outcome are very stringent indeed.

To see this, consider the extreme case of a monopolist in the upstream market who controls an essential input to downstream production. If the downstream market is competitive, the upstream and downstream products are consumed in fixed proportions,\textsuperscript{16} and barriers to entry are insubstantial, then foreclosure cannot be a profitable strategy. The upstream monopolist cannot benefit from foreclosing the downstream market because it is already extracting any monopoly rents, regardless of vertical integration, through the price it charges for the upstream input. It follows that in such a case, there is only one monopoly rent, that rent is fully secured through control over the upstream market, and the only possible rationale for vertical integration is that

\textsuperscript{14} For an example of how complex efficient wholesale pricing can become even in relatively simple circumstances, see M Armstrong and C Doyle et al, ‘The access pricing problem: A synthesis’ (1996) 44 Jnl of Industrial Economics 131. The problem is far more complicated if the vertically integrated firm’s strategy space includes output and quality choices, as is universally the case.

\textsuperscript{15} For example, taking advantage of vertical efficiencies may be misconstrued as instead deliberately degrading service quality to third parties.

\textsuperscript{16} For example, one unit of retail telephony requires one unit of access to the incumbent’s telephony network.
of providing efficiency benefits. Anti-competitive foreclosure strategies in the presence of upstream competition are even less likely to be profitable. Consider, for example, an integrated firm that faces a single rival upstream and competes with it to supply input services to downstream firms. If that integrated firm stops selling to its downstream competitors, it raises the profits of its upstream rival as that rival is now a monopoly seller of the input to the non-integrated firms downstream. Thus, the vertically integrated entity incurs a cost (in the form of foregone sales revenues) by withdrawing from the sale of the input to its downstream competitors, and in doing so raises its upstream rival’s profits. Whether the integrated firm’s withdrawal from third party supply will result in a sufficient increase in downstream prices to make the foreclosure profitable depends on the nature of competition downstream and on the outcome of the negotiations between the upstream rival and the foreclosed downstream competitors. If the downstream market is sufficiently competitive (so that prices cannot increase too much), or if the downstream product is differentiated (so that the integrated firm does not gain much in the way of additional sales by raising the downstream rival’s costs), then the likelihood of foreclosure being profitable is very low.

The scope for profitable foreclosure will obviously be even smaller if the upstream market is not limited to a duopoly. In that event, the upstream response (in which non-integrated rivals expand their output as the integrated firm reduces its output) will both increase the revenue the integrated firm foregoes upstream by its attempted foreclosure while reducing the downstream revenue gain it secures by attempting to disadvantage rivals.

The general point to emerge from this discussion is that whether profitable vertical foreclosure is possible or likely will depend on a number of factors that affect the costs and benefits of any foreclosure strategy.

The first among these factors is upstream market power. The lower the integrated firm’s market power in the supply of the input, the lower will be its ability to degrade the terms on which rivals trade.


18 The fragility of the result that foreclosure can be profitable even in the presence of an upstream duopoly can be seen from a seminal paper showing the possibility of profitable foreclosure: J Ordover, G Saloner and S Salop, ‘Equilibrium Market Foreclosure’ (1990) 80 American Economic Review 127. Ordover et al consider a successive duopoly model where two upstream firms initially provide an equal share of a homogeneous input to two downstream producers. These two downstream producers each produce a differentiated product in competition with the other, and initially have equal market share. Downstream firms compete in prices (a la Bertrand). This assumption ensures that there are no efficiency gains from integration, as double marginalisation does not arise when the firms are unintegrated; price competition between the upstream firms drives their mark-up over costs to zero. The authors then show that vertical foreclosure can emerge in equilibrium as long as the downstream firms’ revenue are increasing in the price of the input. However, the result does not hold under downstream quantity (Cournot) competition: if a firm reduces its output in response to an increase in the input price, the rival responds by increasing its own output, leading to a decrease in the integrated firm’s revenues, violating the condition for profitable foreclosure.
As a result, if barriers to expansion by existing competitors, or barriers to entry by new competitors, into the upstream market are low, then profitable foreclosure is not possible, as the firm that seeks to engage in a foreclosure strategy will lose upstream sales without gaining downstream revenues. These barriers need to be assessed bearing in mind the fact that the integrated firm’s conduct will make it attractive for downstream rivals to actively sponsor entry or expansion by the integrated firm’s upstream competitors. Indeed, the downstream rivals may themselves, as a reaction to the attempted foreclosure, integrate into the upstream market — potentially posing a long term threat to the integrated firm’s upstream position.

Second, there must be downstream rents that the upstream firm, despite whatever market power it has, could not obtain absent vertical integration and subsequent foreclosure. More specifically, for the upstream firm to secure these downstream rents for itself, it must not be sufficient for it to charge downstream buyers a high price for the input it controls.19

Third, the consequence of the integrated firm’s degradation of supply to downstream rivals must be an increase in these rivals’ quality-adjusted prices and a shift in demand to the integrated firm. Moreover, this shift (and the gain in price on any sales the integrated firm’s downstream affiliate would have made in any event) must be sufficient to compensate the integrated firm for the reduction in sales of the input to third parties.

This condition — that the downstream revenue gain must be sufficient to compensate the integrated firm for reduced input sales to third parties — is less likely to be met if the products supplied by the integrated firm’s downstream affiliate are differentiated from those supplied by rivals. In that event, the diversion ratio between downstream firms will be low, limiting the revenue shifting effect of the attempted foreclosure. The condition is also less likely to be met the more elastic is the market demand for the downstream product, as a higher elasticity means that any attempted price increase will simply reduce downstream sales.

Fourth, even if there is a shift in demand to the integrated firm and a consequent revenue gain downstream, whether that shift in demand is sufficient to make the overall strategy profitable depends on the relativity between upstream and downstream margins. Thus, if the upstream business has high margins — say because it has high fixed costs and high margins reflect the low ratio of marginal to average costs — while contribution margins downstream are low (say because there are few scale economies in the downstream market and entry barriers are low), then even a substantial diversion of revenues downstream may not be sufficient to offset a small loss of sales upstream.

More generally, the higher the contribution margin upstream, relative to the contribution margin downstream, the greater the revenue gain that will be

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19 If the firm can secure any downstream rents merely by charging a high price for the input, it will have every incentive to do so, especially if this encourages efficiency in the supply of the downstream good. Indeed, the firm will generally welcome a more efficient downstream rival, as it can secure (through its input prices) the rents from that rival’s superior efficiency. That said, fully extracting those rents from the rival will often require complex, non-linear charges for the upstream input, and transactions costs may make it difficult or impossible to devise and implement such charges.
needed downstream to offset any given level of upstream sales loss; or equivalently, the lower the level of upstream sales loss that is needed to wipe out any gain that could be made by diverting revenue from downstream rivals.

In summary, economic theory suggests that profitable anti-competitive vertical foreclosure is possible, but only under very specific circumstances. Assessing whether these circumstances pertain requires a careful analysis of competitive, cost and demand factors that shape the gains and losses from attempted foreclosure.

**Conglomerate mergers**

The scope for conglomerate mergers (where the merged firms supply products that are neither substitutes nor vertically related) to give rise to competitive harm is even more limited.\(^{20}\)

Traditionally, concern as to the possible anti-competitive effects of conglomerate mergers centred on the fear that by bringing firms into contact with each other across a range of markets, these mergers could increase the likelihood of price coordination.\(^{21}\) More recently, however, the stress has shifted to the scope these mergers may create for forms of tying or bundling, and the consequences those practices may have for the extent of competition. These issues typically arise where the relevant products are complements, ie, where a reduction in the price of one of the products increases the demand for the other.\(^{22}\)

As a matter of economics, there is no a priori reason to believe that the tying or bundling of complements will reduce competition. Indeed standard textbooks recognise that they are far more likely to enhance efficiency, for example, by reducing consumers’ transactions costs, allowing cost reductions in production and distribution, eliminating double marginalisation and permitting more effective price discrimination.\(^{23}\) That said, it is also possible to identify mechanisms through which competition could be adversely affected.

The first and most obvious such mechanism is that tying may force entrants to enter two markets simultaneously, increasing the costs and risks of entry. For this to occur, however, stringent assumptions must be met, not least that the merged entity must effectively have a monopoly over at least one of the

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\(^{22}\) The underlying condition for complementarity between goods A and B is that all else constant an increase in the consumption of good A increases the marginal utility associated with a slight increase in consumption of good B.

products, with the ‘unbundled’ market for the other product being insufficient to support single-product entry at minimum viable scale.

A second possible mechanism is related to the use of tying as a commitment device to fight entry in the event that entry occurs. For example, tying may be used as a strategy by the incumbent to increase its market power in the tied market or to consolidate the incumbent’s market power in the tying market or to extend it to newly emerged markets. Although the two examples are different, the mechanism through which market power is enhanced is the same.

The underlying logic behind the examples is that tying works as a commitment device. If an entrant into the tied market is able to secure some customers, it will mean that the incumbent loses sales in both the tied and tying markets. Although the incumbent firm would later prefer to unbundle in the event entry does occur, the commitment not to do so, if credible, could signal to an entrant that the incumbent would be very aggressive, thereby increasing the barriers to entry. The greater entry barrier would be related to the higher likelihood of aggressive behaviour and the need to enter both the tying product and the tied product (and hence the greater likelihood of loss should entry prove unsuccessful).

It is important to note that the commitment requirement is based on homogeneity of valuation for the tying product. Under heterogeneous valuations for the tied product (and assuming those valuations are independent of those for the tying product), an entrant could potentially attract some customers without threatening all of the incumbent’s market. The reduction in threat to the incumbent would reduce or eliminate the credibility of the incumbent’s commitment to bundling post-entry.

Here too, therefore, the risk to competition depends on rather special assumptions, which can include the combination of substantial horizontal market power (usually in the form of an assumed monopoly over at least one of the relevant goods), the exact pattern of consumer valuations and some commitment mechanism (such as sunk investment in facilities that can only produce the tied goods in fixed proportions) that makes the threat of a non-accommodating response to entry credible. Moreover, when those assumptions are not met in full, the scope to bundle may readily increase competition, as competition of the ‘bundle versus bundle’ sort may increase the stakes to each of the players, making their competitive interaction more intense. This is even more likely to be so in markets where the products are auctioned, or where prices are set by negotiation between buyers and sellers.

While models can be developed that result in exclusion, even relaxing some of the assumptions noted above, the revised models typically require very stringent assumptions. For instance, the ability to tie or bundle may give rise

to exclusion if the firm controlling the products has a monopoly over one of the products, consumer valuations for the bundled products are heterogeneous and independent (so that there are some consumers who value the monopoly product highly who also value the tied product highly) and there are fixed costs to supplying the tied product. In that event, suppliers of the stand-alone product may not be able to attract sufficient high valuation customers to cover their fixed costs.

For this exclusionary effect to occur, however, there must be a high level of homogeneity between the version of the tied product supplied by the tying and stand-alone firms respectively: otherwise, the tying may be unprofitable (as the tying firm must discount its own version of the tied product so as to attract those customers who prefer the version that would be sold by the stand-alone firm), ineffectual in preventing entry or more likely both. In other words, scope for horizontal product differentiation in the tied product tends to undermine the scope for tying to exclude no-less-efficient competitors. Moreover, and related, there must be an assumption that the market for the tied product is small relative to that for the tying product; conversely, were it the case that the tied product had an absolutely greater demand than the tying product (say a demand covering the range [0, 2] compared to one for the tying product of [0, 1]), then the entrant may end up with a sufficient demand density to cover its fixed costs, even if it only secures a relatively small share of the market. And any scope for product differentiation will make that outcome even more likely (as it increases the entrant’s ability to capture relatively high valuation customers).

Connecting the stringent assumptions required for exclusionary effects to occur to a merger obviously creates additional issues. In particular, a conglomerate merger would presumably only be problematic if it substantially increased the merged entity’s ability to engage in such anti-competitive bundling. This, in turn, requires that a rather long list of specific conditions be met in both the merging firm’s initial and expanded product sets, and that those conditions are not already met by the merging firms’ product sets absent the transaction. As a general matter, one might have expected that the very few firms that had the scope to exclude rivals through bundling would be able to do so regardless of whether a particular merger did or did not occur.

**Conclusion on vertical and conglomerate mergers**

Overall, the summary set out above suggests that mergers between suppliers of close substitutes are far more likely to cause harm than vertical or even more so, conglomerate mergers, in the sense that they are more likely to create increased pricing discretion. Although there is very little empirical evidence on conglomerate mergers, this conclusion is consistent with the empirical literature on vertical integration, which concludes that there is virtually no sign of vertical integration having anti-competitive effects.28

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Relation to the Merger Guidelines

Set against the relevant (largely theoretical) literature, the guidelines do a good job of identifying (essentially in the form of a list) the factors that have been found to be associated with the scope for mergers to have adverse effects. That said, they do raise concerns.

The most fundamental of these concerns relates to the criterion which will guide the assessment. In the typical merger model, the fundamental issue is whether prices will rise, fall or be unchanged compared to a relevant counterfactual (usually taken to be the status quo). This is essentially a consumer surplus standard for assessing proposed mergers, though it can be readily expanded into a total welfare standard (by adding the changes in consumer and producer surplus). To the extent to which the merger allows efficiencies, those efficiencies will abate any price elevation effect of the change in market structure.

The guidelines, however, draw a distinction between the ultimate outcome of the merger — in the sense of the merger’s effect on consumer, producer or total surplus — and its impact on competition. While this distinction is not clearly explained in the guidelines, it can be illustrated.

Consider a merger that reduces costs and prices but converts a previously atomistic industry into a monopoly (with the HHI going from 0 to 1), say by allowing firms to implement a natural monopoly technology that no individual firm could (for some reason) have implemented. The reduction in costs and associated fall in prices obviously means that the merger is welfare enhancing, assuming there are no adverse effects on dynamic efficiency. However, there is an intuitive sense in which the merger ‘lessens competition’, in that the prior state of atomistic competition, in which each firm faces a horizontal demand curve, is supplanted by a single firm facing the entirety of the market (downward sloping) demand curve. The result of that change is that prices, though lower than in the counterfactual, will be higher than marginal costs, which themselves are lower than they previously were.

Figure 1 provides a simple illustration. DD is the industry demand curve and $S_c$ and $P_c$ are respectively, the supply function and the price that would prevail under atomistic competition with output $Q_c$. $MC_m$ and $AC_m$ are respectively the merged firm’s marginal and average cost functions, and $Q_m$ and $P_m$ the quantity per unit time and the price, that would prevail subsequent to the merger that converts the market into a ‘monopoly’. Under atomistic competition, there are no profits; in contrast, under ‘monopoly’, profits (the area $P_macb$) are very large indeed relative to industry revenues. Moreover, under monopoly, there is a deadweight loss, though both consumer and producer surplus are greater than in the atomistic case. If the margin between price and marginal cost is taken as a measure of ‘competition’, then the merger has greatly raised welfare while dramatically reducing ‘competition’. This is plainly an extreme case of the so-called ‘Williamson trade-off’.
Matters are obviously more complicated outside of the simple comparison between atomistic competition on the one hand and single firm monopoly on the other. Mergers attracting the attention of competition authorities almost invariably involve a move among ‘degrees of’ oligopoly, if one can conceive of such a metric. When the guidelines refer to such a move ‘lessening competition’, what they seem to have in mind is akin, in the case of firms supplying homogenous goods, to a change in the co-efficient of conjectural variation\(^{29}\) — the Beta in equation (2) above — that takes the market price closer to the cartel level for any given level of marginal costs.

To this end, the guidelines say that the efficiencies specifically associated with a merger may be taken into account in its assessment, but only to the extent they affect competition. In other words, again in the simple homogenous goods case, any reductions in costs permitted by the merger could be taken into account to the extent that, and only to the extent that, they somehow affected the co-efficient of conjectural variation in a way that drove price closer to marginal costs.

While this distinction between welfare or efficiency on the one hand, and competition on the other, is plainly not meaningless, it involves a rather special and somewhat narrow concept of competition. This can be seen by considering the case discussed above and that is illustrated in Figure 1. Clearly, in the world absent the merger, all firms face horizontal demand curves and prices are equal to marginal costs, while in the post-merger world, the sole firm faces a downward sloping demand curve and prices are above marginal costs. However, that is because the natural monopoly technology has competed successfully with the atomistic technology, and displaced it entirely.

\(^{29}\) For an individual firm, the co-efficient of conjectural variation can be interpreted as its belief as to the partial derivative of all other firms’ output with respect to a change in its own output.
In that sense, the market structure itself reflects a competitive process. Moreover, the atomistic technology has presumably not been forgotten: rather, it still remains as a constraint on the now sole producer. Indeed, if the atomistic supply function, \( S_c \), lay somewhat below \( P_m \) then it could, depending on entry dynamics, constrain the monopolist to set a price below \( P_m \), without changing the basic message of the example. Competition has only diminished if one disregards the rivalry between alternative ways of structuring the industry and focuses solely on the extent of rivalry within one particular market structure. John S McGee (one of the pioneers of the so-called ‘Chicago School’) noted long ago, that analytically, there is nothing in economics which suggests this is a rational thing to do, all the more when the result is to prevent potential efficiency improvements from occurring.\(^{30}\)

This is presumably even more clearly the case in the context of the guidelines, where what is at issue are transactions put together by wealth-maximising entrepreneurs, whose proposals compete with those of others (in the sense that at any point in time, each firm faces many merger opportunities). It seems odd (and inconsistent with maximising social welfare) to say that a merger proposal that reduces costs by replacing high cost sources of supply by low cost sources of supply — as in a merger which reduces the costs of a dominant firm relative to a competitive fringe and causes that fringe’s elimination — lessens competition; rather, that replacement of less efficient sources of supply by more efficient rivals seems itself to be the very essence of the competitive process. Yet this is the consequence that would seem to flow from the approach set out in the guidelines. On even a generous assessment, this comes perilously close to making efficiencies an offence, rather than a defence, in the assessment of merger proposals.

Moreover, implementing the guidelines’ approach clearly raises any number of analytical and practical difficulties. Thus, it is by no means clear which merger-related efficiencies will prove to be relevant to ‘competition’ (as narrowly defined above) and conversely, which will not. The guidelines say that only reductions in marginal costs may be relevant, but this is plainly not correct for models where prices are set by bargaining or where firms compete on product range (where fixed costs also usually affect outcomes). Additionally, even if this decomposition could be effected, it is by no means clear how one would translate that component that is considered relevant to ‘competition’ (again, so narrowly defined) into a likely effect on ‘competition’, prices or welfare. While there are merger simulation models that could be used, it is difficult to see what interpretation could be placed on the outcomes of such a model when some of the efficiencies that are likely to be associated with a merger had been excluded from consideration.

What this means is that the criterion that will be used to assess mergers is vague and ill-defined. Rather than relating to the welfare consequences of a proposed merger, the assessment will be in terms of the ‘competitive process’ post-merger, which plainly depends on myriad factors, many of them

\(^{30}\) As McGee put it, ‘It would be arbitrary to attribute to competition among firms using the same technology greater economic virtue than is attributed to competition among different methods of doing things’: J McGee, *In Defense of Industrial Concentration*, Praeger, 1971, p 23.
identified in the guidelines, whose individual and collective effect is largely a matter of judgment. It is therefore unsurprising that the words ‘may’ (as in ‘current or historic levels of imports may indicate the competitive role of imports in the relevant market’ (guidelines, p 41)) and ‘can’ (as in ‘entry of new firms into a market can provide an important source of competitive constraint’ (guidelines, p 38)) appear far more frequently in the guidelines than ‘do’ or ‘will’.

This is not to suggest that the literature provides definitive guidance that could be used to frame less discretionary standards. That is not the case. But the fact that it is not the case is unsurprising. The theoretical literature is very largely concerned with identifying possibilities: ie, ways in which one can derive the result that a merger will reduce welfare, with little or (more commonly) no attention being given to how likely it is that the required assumptions will hold in practice. As for the empirical literature, it is very sparse indeed, and nowhere more so than in Australia.

That said, one might have thought that what empirical literature there is, along with the ACCC's own experience with assessing mergers (which seems to play very little role in the document, which, compared to its predecessor, makes little use of reference to cases), could have been used to draw significantly stronger presumptions — for example, that where there has been significant recent entry, it is extremely unlikely that entry barriers are high, or that where the market shares of the merger parties are low, it is extremely unlikely that any unilateral effects will prove sufficiently great and durable as to warrant concern. In contrast, the phrasing of the document seems intent on giving very little by way of clear guidance, as if the goal was to ensure that any possibility of harm, no matter how unlikely, will be brought within, and considered by, the ACCC’s processes.

This is underscored both by the very low threshold set for horizontal mergers to be notified (with the guidelines saying that mergers that will leave an entity with a market share in excess of 20% should be notified to the ACCC) and by the space the document devotes to vertical and conglomerate mergers, which only very rarely could give rise to competition concerns. While the guidelines recognise that these mergers will ‘often’ give rise to efficiencies, they only concede that ‘in the majority of cases’ (rather than almost always) they ‘will raise no competition concerns’. There is, in this respect, a seeming ‘base rate’ error, which could have implications for merger assessment in practice. If one starts from the (erroneous) presumption that a relatively high proportion of vertical mergers are likely to be anti-competitive, and assumes that one is more likely to see certain characteristics (such as entry barriers and high market shares) where they are, then one will more readily infer a finding of likely harm to competition from the presence of those characteristics than one should.

This kind of valuation error can occur even when the assumed base rates are low. Assume, for example, that all anti-competitive vertical mergers occur in industries with entry barriers, while only 10% of the vertical mergers that are not anti-competitive occur in industries with entry barriers. Even if one assumes that as many as 10% of vertical mergers are anti-competitive, then out of a population of 100 proposed vertical mergers, 10 will be anti-competitive and have entry barriers and 90 will not be anti-competitive,
of which nine will have entry barriers. As a result, out of the population of proposed vertical mergers with entry barriers, 10 out 19 (ie, some 53%) will be anti-competitive, suggesting that the average such vertical merger is anti-competitive. Given those likelihoods, challenging a vertical merger that presents with entry barriers is slightly less likely to be an error than not challenging it — ie, the likelihood of such a challenge being a type I error (the error of not identifying as anti-competitive a merger that is indeed anti-competitive) is less than the likelihood of not challenging it being a type II error (the error of identifying a merger as anti-competitive that is not anti-competitive). An implied probability as high as 10% of a vertical merger being anti-competitive therefore only just leans in favour of a propensity to challenge vertical mergers occurring in markets with entry barriers.

However, this leaning quickly reverses if the probability of anti-competitive vertical mergers is less than 10%. For example, if the ‘true’ incidence of anti-competitive mergers is no more than 1% (which may be more likely, given the results of the empirical survey referred to above), and all the other assumptions are held unchanged, then out of a population of 100 vertical mergers, 1 will be anti-competitive and have entry barriers and 99 will not be anti-competitive, of which 9.9 will have entry barriers. As a result, out of the population of proposed vertical mergers with entry barriers, approximately 1 out of 11 (ie, some 9%) will be anti-competitive, suggesting that the average such vertical merger is not anti-competitive. An inclination to challenge vertical mergers because of the presence of entry barriers is therefore far more likely to give rise to type II errors, with all their associated costs (including that of discouraging socially desirable mergers).

In short, where inferences are being drawn under uncertainty, base rate errors can be costly in terms of the likelihood of error. Set against that fact, the guidelines seem to assume a generally relatively high base rate of harm, with little apparent justification being given for so doing.

There is, for example, no retrospective analysis in the guidelines of ACCC merger decisions, which might have usefully informed inferences of base rates (and illustrated the manner in which the ACCC intends to implement its assessment procedures). As regards conglomerate mergers, for example, the classic case is the ACCC’s refusal to clear the proposed acquisition by CCA Amatil of Berri’s fruit juice business in October 2003, essentially on the basis that CCA Amatil could ‘leverage’ its high market share and ‘must have’ characteristics in carbonated soft drinks to reduce competition in fruit juices. However, what has since become clear is that CCA Amatil’s own fruit juices (sold under the ‘Fruitopia’ brand) and energy drinks (sold under the ‘Mother’ brand) have been significant commercial failures — an outcome difficult to reconcile with the claimed likelihood of harm. The gap between the ACCC’s concern and the eventual outcome seems equally marked in the leading vertical merger cases of AGL’s proposed acquisition of a share in the Loy Yang power generator and of the Toll group’s acquisition of (among other assets) the Patrick group’s share of Pacific National. Obviously, the picture is significantly more complicated in respect of horizontal mergers, but that would make a careful retrospective assessment all the more valuable.

In short, one is left with a standard of assessment that is inherently vague and highly discretionary along with an apparent presumption that the risk of
harm is relatively high. This obviously has the potential to lead to a significant compliance burden being imposed on merger proponents and to socially costly errors in terms of the decisions reached.

Conclusions

It would be wrong to suggest that the merger assessment process could be made simple and predictable merely by altering the criterion in terms of which mergers would be assessed. That said, a focus on whether a merger was or was not likely to lead to consumer welfare losses (ie, would lead to materially higher prices or lower quality than would otherwise prevail) would help provide a clearer structure to the analysis, would allow full consideration of possible efficiencies and would seem consistent with the purpose of the TPA and of the section. Were such an approach adopted, authorisation would then only be required for mergers that had the potential to yield welfare gains despite having the likelihood of causing harm to consumers.

Obviously, merely adopting such a criterion says nothing about the threshold level at which harm should be found or the degree of confidence required for that threshold to be made out (or demonstrated not to be). Those issues go to the likely costs and risks of type I and type II errors respectively (ie, the costs to Australian society respectively, of not identifying as anti-competitive a merger that is indeed anti-competitive and of identifying as anti-competitive a merger that is not anti-competitive). Simply put, the lower the social cost of erroneously allowing a few anti-competitive mergers to occur, relative to the social cost of erroneously preventing some pro-competitive mergers from occurring, the higher should be the threshold that needs to be met before a merger is challenged. Moreover, the higher the costs of identifying anti-competitive mergers, relative to the social harm they cause, the lower should be the evidentiary level at which the ACCC clears a merger.

While these parameters are not known, one might have thought that in a relatively small, open economy, with reasonably efficient capital and labour markets, it would be difficult for product market inefficiencies to persist. If that presumption is correct, the cost of type I errors will be high relative to that of type II errors. One would also think that the possible social costs of a discretionary merger process are relatively high, not merely in terms of wasted compliance costs but also in terms of vesting undesirable power in an unelected entity, the ACCC, and of discouraging some worthwhile mergers from occurring. To that extent too, there would be a case for a relatively more tolerant (or at least somewhat more formulaic) approach to mergers than seems to be foreshadowed by the ACCC Guidelines.